

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application.

Listing of Claims

Claims 1-23 (canceled).

Claim 24 (currently amended): An isolated protein of the TGF- β family which has mitogenic and/or differentiation-inductive activity and is coded by a DNA molecule selected from the group consisting of

(a) a DNA molecule comprising the nucleotide sequence ~~shown in the SEQ ID No:1, or the following fragments: nucleotides 128-1183 of SEQ ID NO:1, nucleotides 836-1183 of SEQ ID NO:1, and~~ of nucleotides 866-1183 of SEQ ID NO:1;

(b) a DNA molecule comprising the nucleotide sequence shown in the SEQ ID No:3, or the following fragments: nucleotides 131-1186 of SEQ ID NO:3, nucleotides 839-1186 of SEQ ID NO:3, and nucleotides 869-1186 of SEQ ID NO:3;

(c) a DNA molecule encoding the amino acid sequence encoded by (a) or (b); and

(d) a DNA molecule comprising a nucleotide sequence (i) which hybridizes with a complement of one of the DNA molecules from (a) and (b) under stringent hybridization conditions in 6x SSC at 62-66° C followed by one hour wash with 0.6x SSC and 0.1% SDS at 62-66° C and (ii) which encodes a protein comprising an amino acid sequence containing seven conserved cysteine residues, said seven conserved cysteines corresponding to cysteine residues at positions 247, 276, 280, 316, 317, 349 and 351 in SEQ ID NO:2.

Claim 25 (currently amended): An isolated protein which has an amino acid sequence selected from the group consisting of ~~SEQ ID NO:2~~; SEQ ID NO:4; a mature protein that starts with

one of amino acids ~~217-240~~ 217-236 or 238-240 and ends with amino acid 352 of SEQ ID NO:2; a mature protein which comprises at least the region of seven cysteine residues, said region comprising amino acid residues 247-352 of SEQ ID NO:2; and a mature protein that starts with one of amino acids 217-240 and ends with amino acid 352 of SEQ ID NO:4; and a mature protein which comprises at least the region of seven cysteine residues, said region comprising amino acid residues 247-352 of SEQ ID NO:4.

Claim 26 (currently amended): A heterodimeric protein comprising a monomer of ~~the~~ a first protein of the TGF- β family claim-24 and a monomer of another protein from the TGF- β family, said first protein has mitogenic and/or differentiation-inductive activity and is coded by a DNA molecule selected from the group consisting of

(a) a DNA molecule comprising the nucleotide sequence shown in the SEQ ID NO:1, or the following fragments: nucleotides 128-1183 of SEQ ID NO:1, nucleotides 836-1183 of SEQ ID NO:1, and nucleotides 866-1183 of SEQ ID NO:1;

(b) a DNA molecule comprising the nucleotide sequence shown in the SEQ ID NO:3, or the following fragments: nucleotides 131-1186 of SEQ ID NO:3, nucleotides 839-1186 of SEQ ID NO:3, and nucleotides 869-1186 of SEQ ID NO:3;

(c) a DNA molecule encoding the amino acid sequence encoded by (a) or (b); and

(d) a DNA molecule comprising a nucleotide sequence (i) which hybridizes with a complement of one of the DNA molecules from (a) and (b) under stringent hybridization conditions in 6x SSC at 62-66° C followed by one hour wash with 0.6x SSC and 0.1% SDS at 62-66° C and (ii) which encodes a protein comprising an amino acid sequence containing seven conserved cysteine residues, said seven conserved cysteines corresponding to cysteine residues at positions 247, 276, 280, 316, 317, 349 and 351 in SEQ ID NO:2.

Claim 27 (currently amended): A pharmaceutical composition comprising ~~the~~ a protein of claim-24 and pharmaceutically acceptable carrier or auxiliary substances, diluents or fillers, said

protein has mitogenic and/or differentiation-inductive activity and is coded by a DNA molecule selected from the group consisting of

(a) a DNA molecule comprising the nucleotide sequence shown in the SEQ ID NO:1, or the following fragments: nucleotides 128-1183 of SEQ ID NO:1, nucleotides 836-1183 of SEQ ID NO:1, and nucleotides 866-1183 of SEQ ID NO:1;

(b) a DNA molecule comprising the nucleotide sequence shown in the SEQ ID NO:3, or the following fragments: nucleotides 131-1186 of SEQ ID NO:3, nucleotides 839-1186 of SEQ ID NO:3, and nucleotides 869-1186 of SEQ ID NO:3;

(c) a DNA molecule encoding the amino acid sequence encoded by (a) or (b); and

(d) a DNA molecule comprising a nucleotide sequence (i) which hybridizes with a complement of one of the DNA molecules from (a) and (b) under stringent hybridization conditions in 6x SSC at 62-66° C followed by one hour wash with 0.6x SSC and 0.1% SDS at 62-66° C and (ii) which encodes a protein comprising an amino acid sequence containing seven conserved cysteine residues, said seven conserved cysteines corresponding to cysteine residues at positions 247, 276, 280, 316, 317, 349 and 351 in SEQ ID NO:2.

Claim 28 (previously presented): A pharmaceutical composition comprising the protein of claim 26 and pharmaceutically acceptable carrier or auxiliary substances, diluents or fillers.

Claim 29 (canceled).

Claim 30 (previously presented). The heterodimeric protein of claim 26, wherein the other member of the TGF- β family is activin/inhibin or a bone morphogenetic protein.

Claim 31 (currently amended). A homodimeric protein comprising two monomers of the a protein of claim 24 that has mitogenic and/or differentiation-inductive activity and is coded by a DNA molecule selected from the group consisting of

(a) a DNA molecule comprising the nucleotide sequence shown in the SEQ ID NO:1, or the following fragments: nucleotides 128-1183 of SEQ ID NO:1, nucleotides 836-1183 of SEQ ID NO:1, and nucleotides 866-1183 of SEQ ID NO:1;

(b) a DNA molecule comprising the nucleotide sequence shown in the SEQ ID NO:3, or the following fragments: nucleotides 131-1186 of SEQ ID NO:3, nucleotides 839-1186 of SEQ ID NO:3, and nucleotides 869-1186 of SEQ ID NO:3;

(c) a DNA molecule encoding the amino acid sequence encoded by (a) or (b); and

(d) a DNA molecule comprising a nucleotide sequence (i) which hybridizes with a complement of one of the DNA molecules from (a) and (b) under stringent hybridization conditions in 6x SSC at 62-66° C followed by one hour wash with 0.6x SSC and 0.1% SDS at 62-66° C and (ii) which encodes a protein comprising an amino acid sequence containing seven conserved cysteine residues, said seven conserved cysteines corresponding to cysteine residues at positions 247, 276, 280, 316, 317, 349 and 351 in SEQ ID NO:2.

Claim 32 (previously presented). A monomeric protein comprising the protein of claim 24.

Claim 33 (previously presented). A pharmaceutical composition comprising the protein of claim 31 and pharmaceutically acceptable carrier or auxiliary substances, diluents or fillers.

Claim 34 (previously presented): A pharmaceutical composition comprising the protein of claim 32 and pharmaceutically acceptable carrier or auxiliary substances, diluents or fillers.

Claim 35 (currently amended): The protein according to claim 25, wherein said protein has an amino acid sequence selected from the group consisting of a mature protein that starts with amino acid 236 and ends with amino acid 352 of SEQ ID NO:2, ~~a mature protein that starts with amino acid 237 and ends with amino acid 352 of SEQ ID NO:2;~~ a mature protein that starts with amino acid 236

and ends with amino acid 352 of SEQ ID NO:4 and a mature protein that starts with amino acid 237 and ends with amino acid 352 of SEQ ID NO:4.

Claim 36 (currently amended): A pharmaceutical composition comprising ~~the~~ a protein of claim 35 and pharmaceutically acceptable carrier or auxiliary substances, diluents or fillers, said protein has an amino acid sequence selected from the group consisting of a mature protein that starts with amino acid 236 and ends with amino acid 352 of SEQ ID NO:2, a mature protein that starts with amino acid 237 and ends with amino acid 352 of SEQ ID NO:2, a mature protein that starts with amino acid 236 and ends with amino acid 352 of SEQ ID NO:4 and a mature protein that starts with amino acid 237 and ends with amino acid 352 of SEQ ID NO:4.

Claim 37 (currently amended): A heterodimeric protein comprising a monomer of ~~the~~ a first protein of claim 35 the TGF- β family and a monomer of another protein from the TGF- β family, said first protein has an amino acid sequence selected from the group consisting of a mature protein that starts with amino acid 236 and ends with amino acid 352 of SEQ ID NO:2, a mature protein that starts with amino acid 237 and ends with amino acid 352 of SEQ ID NO:2, a mature protein that starts with amino acid 236 and ends with amino acid 352 of SEQ ID NO:4 and a mature protein that starts with amino acid 237 and ends with amino acid 352 of SEQ ID NO:4.

Claim 38 (currently amended): A pharmaceutical composition comprising the protein of claim ~~36~~ 37 and pharmaceutically acceptable carrier or auxiliary substances, diluents or fillers.

Claim 39 (currently amended): The heterodimeric protein of claim ~~36~~ 37, wherein the other member of the TGF- β family is activin/inhibin or a bone morphogenetic protein.

Claim 40 (currently amended): A homodimeric protein comprising two monomers of ~~the~~ a protein of claim 35 that has an amino acid sequence selected from the group consisting of a mature

protein that starts with amino acid 236 and ends with amino acid 352 of SEQ ID NO:2, a mature protein that starts with amino acid 237 and ends with amino acid 352 of SEQ ID NO:2, a mature protein that starts with amino acid 236 and ends with amino acid 352 of SEQ ID NO:4 and a mature protein that starts with amino acid 237 and ends with amino acid 352 of SEQ ID NO:4.

Claim 41 (previously presented): A pharmaceutical composition comprising the protein of claim 40 and pharmaceutically acceptable carrier or auxiliary substances, diluents or fillers.

Claim 42 (previously presented): A monomeric protein comprising the protein of claim 35.

Claim 43 (previously presented): A pharmaceutical composition comprising the protein of claim 42 and pharmaceutically acceptable carrier or auxiliary substances, diluents or fillers.

Claim 44 (new): A pharmaceutical composition comprising a protein and a pharmaceutically acceptable carrier or auxiliary substances, diluents or fillers, said protein selected from the group consisting of SEQ ID NO:2; SEQ ID NO:4; a mature protein that starts with one of amino acids 217-240 and ends with amino acid 352 of SEQ ID NO:2; a mature protein which comprises at least the region of seven cysteine residues, said region comprising amino acid residues 247-352 of SEQ ID NO:2; a mature protein that starts with one of amino acids 217-240 and ends with amino acid 352 of SEQ ID NO:4; and a mature protein which comprises at least the region of seven cysteine residues, said region comprising amino acid residues 247-352 of SEQ ID NO:4.